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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,421	07/28/2001	Alan D. Ward	10960563-2	2020

7590 04/21/2005

HEW LETT-PA CKARD COMPANY  
Intellectual Property Administration  
P. O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER
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BULLOCK JR, LEWIS ALEXANDER

ART UNIT	PAPER NUMBER
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2195

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<b>Application No.</b> 09/917,421	<b>Applicant(s)</b> WARD ET AL.	
	<b>Examiner</b> Lewis A. Bullock, Jr.	<b>Art Unit</b> 2195	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-40 and 42-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21,22,25-40,42 and 47 is/are rejected.
- 7) ☒ Claim(s) 23,24 and 43-46 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |



**DETAILED ACTION**

1. The indicated allowability of claim 42 is withdrawn in view of BECKETT (U.S. Patent 5,790,798). Rejections based on the cited reference(s) follow.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over BECKETT.

As to claim 42, BECKETT teaches a system for providing a graphics diagnostic tool (monitoring computer / supervisor computer) access to a computer graphics system (monitored computer) comprising graphics hardware (screen via the display driver) and a graphics library (monitor.dll) for controlling the graphics hardware, the graphics library including graphics library functions responsive to function calls generated by an executing application (sent graphics primitives from a graphics engine), the system comprising: a plurality of internal event generators (hooks) embedded in the graphics library to perform diagnostic operations (monitoring) on the computer graphics system during normal operations of the graphics application (via real-time monitoring / viewing at the supervisors computer) (col. 9, lines 54-43; col. 12, lines 23-37; col. 14, lines 11-47).

***Claim Rejections - 35 USC § 112***

4. Claims 21, 22, and 25-30 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: “the relationship of the graphics application to the functionality of the graphics library. Key to Applicant’s invention is that the hooks module is configured to install at least one event generator in the graphics library during and without interruption to normal operations of the currently-executing graphics application. As detailed in other independent claims, in particular claim 31, as well as the specification, the execution of the graphics application would entail function calls to the graphics library. Hence, Applicant’s invention installs at least one event generator while the graphics library handles function calls to the graphics application. Claim 21 as written does not require this. Claim 21, would allow the graphics application to have no relation to the graphics library, hence on a multitasking system a graphics application that displays graphics and never calls a library while another application requests the updating of a library. The addition of the similar limitation as disclosed in claim 31 of “in response to function calls received from a graphics application executing thereon”, would overcome this rejection.

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5. Claims 38-40 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: "the relationship of the graphics application to the functionality of the hooks module. Key to Applicant's invention is that the inserting or removing of a software program from the executing hooks module occurs during and without interruption to normal operations of the currently-executing graphics application which uses the hooks module in order to execute, via calling functions in the library associated with the hooks module. As detailed in other independent claims, in particular claim 31, as well as the specification, the execution of the graphics application would entail function calls to the graphics library associated with the hooks module. Hence, Applicant's invention installs at least one event generator / software while the graphics library / handler handles function calls to the graphics application. Claim 21 as written does not require this. Claim 21, would allow the graphics application to have no relation to the graphics library / handler, hence on a multitasking system a graphics application that displays graphics and never calls a library while another application requests the updating of a library / handler. The addition of the similar limitation as disclosed in claim 31 of "in response to function calls received from a graphics application executing thereon" or ", or the like wherein the application executes function calls to the handler would overcome this rejection.

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6. Claim 29 recites the limitation "the graphics diagnostic tool....a graphics diagnostic tool" in lines 1-3. There is insufficient antecedent basis for this limitation in the claim. The first instance of "the graphics diagnostic tool" should be "a", and the second instance should be "the".
7. Claim 30 recites the limitation "the diagnostic operations" in lines 3-5. There is insufficient antecedent basis for this limitation in the claim. The limitation should state "diagnostic operations" without "the", since this is the first instance.
8. Claims 31-37 recites the limitation "the event generator" in line 8 of claim 31. There is insufficient antecedent basis for this limitation in the claim. Since the prior recitation of the generator was removed from the claim, the cited indication should read "an event generator".
9. Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is found throughout the specification that the invoking of the event generator comprises the forwarding of results to the graphics tool. The examiner has found no recitation of the installing of the generator thereby forwards results of the operations to the graphics tool.

***Important Note***

Claim 42 details a plurality of internal event generators embedded within the graphics library. As rejected above, the event generators can be the hooks of the system and not necessarily installed during normal operations of the graphics application as detailed in other claims. Amending the claims to “a plurality of internal event generators **installed** in the graphics library...” would alleviate the event generators pre-installed in the graphics library performing diagnostic operations as disclosed in the prior art of record.

***Allowable Subject Matter***

10. Claims 23, 24, and 43-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The cited claims contain allowable subject matter at least for the following reasoning: The cited claims teach a hooks module within a computer graphics system having a graphics library that controls graphics hardware and is responsive to function calls from an executing graphics application, such that the hooks module is configured to install at least one event generator in the graphics library during normal operations of a currently-executing graphics application and without interruption to the normal operations of the graphics application. The limitation of having the hooks module comprise of event generators located within the graphics library and configured to perform a diagnostic operation during the normal operations of the graphics application

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would allow the graphics system in real-time to provide the graphics tool access to the graphics system immediately upon the occurrence of conditions which merit such evaluation and control, such as recognition of undesirable or unanticipated system behavior (pg. 8, lines 22-28) as well as providing the graphics tool with access to internal state and control flow of the graphics system which is otherwise unavailable to external processes. The invention also incurs minimal performance penalties due to the integration during normal operations of the graphics system and since the event generators are operationally removed from the graphics library when the hooks module is not enabled (pg. 9, lines 18-21). The prior art of record at best teaches the performance of diagnostic operations during normal operations of the graphics application on selected portions of the graphics system (Brown, Beckett). The prior art does not allude to installing event generators within the graphics library that is responsive to function calls generated by an executing graphics application and controls the graphics hardware performing the diagnostic operations during the normal operations of the currently-executing graphics application. Therefore, the claims are allowable over the prior art of record.

### ***Conclusion***

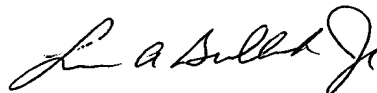
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (571) 272-3759. The examiner can normally be reached on Monday-Friday, 8:30 - 5:00.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 15, 2005

  
**LEWIS A. BULLOCK, JR.**  
**PRIMARY EXAMINER**